

DAMES & MOORE

A PROFESSIONAL LIMITED PARTNERSHIP

127 SOUTH 500 EAST, SUITE 300, SALT LAKE CITY, UTAH 84102-1955 (801) 521-9255

February 22, 1991

Mr. Grant A. Pinkerton
North Lily Mining Company
P.O. Box 421
Eureka, UT 84628

RECEIVED
FEB 28 1991

Dear Mr. Pinkerton:

DIVISION OF
OIL, GAS & MINING

Comments and Revisions Addressing
North Lily Mining Company Extension
Project Phases I through III
State Department of Health Comments
Dated October 29, 1990

We have addressed subject comments concerning drawings and specifications submitted on October 10, 1990 as follows:

Drawings:

1. Sheet 6:

- a. Addressed as requested.
- b. The 30-mil/40-mil PVC liner combination specified is consistent with previous designs whereby the 30-mil underlies the heap leach area and the 40-mil section is in the area exposed to sunlight.

2. Sheet 7:

- a. Addressed as requested.
- b. Section J-J':
 - i. Addressed as requested.
 - ii. The material beneath the secondary (sic) liner has been specified. It is our opinion that if properly placed and compacted, stability will not be an issue for ore up to 50 feet high.

c. Section K-K':

3. Sheet 8:

In recontouring of heap for reclamation subsequent to neutralization, pipes will be covered, thus plugging will not be required.

Specifications:

1. Sections 4.2 & 5.2:

"Topsoils" used in existing berms does not include vegetative matter and has previously been placed as compacted structural fill. We see no issues concerning heap stability with leaving these small quantities of materials in place for heap expansions.

2. Section 5.0:

Grade tolerances have been added to Section 9.4.

3. Section 5.5:

Specification of a one inch minus material is provided in Section 8.2.1 for the final lift material to be directly underlying the FML and another specification in Section 5.5 was added to include limitation of up to 35 percent gravel.

4. Section 6.6:

Seaming method is specified as to be performed in accordance with manufacturer's recommendations.

5. Section 8.2.1:

We are not proposing a stratified liner - only a slight modification to maximum particle size for the uppermost layer in immediate contact with the FML.

6. Section 9.1:

Has been addressed

7. Section 10.1:

Issues have been identified. It is our opinion that the ASTM D-698 compaction specification provided is reasonable for the proposed design.

A typographical error has been corrected.

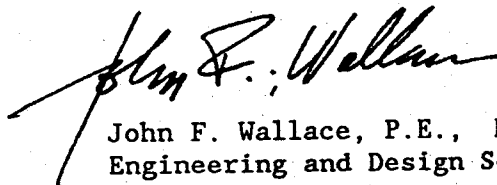
9. Section 10.2.3:

No comment.

I trust the way we have addressed these comments are satisfactory and look forward to assisting you on any discussions you may have with Mr. Rupp at the bureau of Water Pollution Control.

Sincerely,

DAMES & MOORE

A handwritten signature in dark ink, appearing to read "John F. Wallace". The signature is fluid and cursive, with a large initial "J" and "W".

John F. Wallace, P.E., Manager,
Engineering and Design Services

JFW/pc

Mr. Grant A. Pinkerton
North Lily Mining Company
P.O. Box 421
Eureka, Utah 84628

REC-1
FEB 28 1991
DIVISION OF
OIL, GAS & MINING

RE: North Lily Mining Company
Extension Project Phases I through III

Dear Mr. Pinkerton:

We received the plans and specifications for the subject project on October 10, 1990. We have the following comments on these items:

Drawings:

1. Sheet 6:

- a. Section E-E', in the toe of the protective cover material distance to the edge of the top of the ditch should be shown.
- b. 30-mil PVC liner is specified rather than 40-mil as in the original specification. Does this meet the requirements of NSF Standard 54?

2. Sheet 7:

- a. Section I-I', distance from the toe of the heaps to the dike, and to the slope of the primary liner should be shown.
- b. Section J-J':
 - i. A fence surrounding the facility, and the type, should be shown.

ii. Fill material beneath the secondary should be specified in detail.

Will this material be at least 18 inches compacted and be free of large rocks?

c. Section 4.2:

- i. Toe of heap separation from toe of dike should be shown and labeled as such. The entire flow from Phase II flows along the south dike. A ditch must be shown to carry this flow.
- ii. Fence location should be indicated.

3. Sheet 8:

Should not the solution collection lines be plugged to prevent accidental discharge during a wet reclamation construction period?

Specifications:

It appears the overflow pond is acceptable to use through phase II. However, for phase III, additional capacity will need to be added to maintain the full amount of volume required by the regulations. An alternative involving the encroachment of the 18-inch freeboard is not acceptable.

1. Section 4.2 & 5.2:
Topsoil or other unsuitable soils used in constructing the existing dikes is a concern. Some dikes will be covered with 50 feet of ore, and some will have fill on them in addition to the ore. The stability of these covered dikes is in question.
2. Section 5.0:
A smooth graded finish surface tolerance should be specified for the secondary liner, to prepare for the placement of the flexible membrane liner (FML).
3. Section 5.5:
Secondary liner should have a specified maximum size of 1-inch, not 3-inch. Also, less than 35% of the material must not be classified as gravel.
4. Section 6.6:
Seaming method is not specified.
5. Section 8.2.1:
~~This narrative conflicts with 5.5.~~ There are not provisions in the regulations for a stratified secondary liner material.
6. Section 9.1:
Topsoil and other soils are not specified as unsuitable fill.

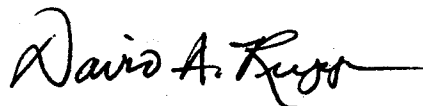
First paragraph: Reference to section 9.2 for compaction is in error.
Second paragraph: ASTM D1557 seems more appropriate for 50% ore loading
to reduce potential settlement.

8. Section 10.2.1:
States "... material compacted to a dry density shall not be accepted." This statement seems in error.
9. Section: 10.2.3:
Ninety percent compaction is specified for the dikes. What if these dikes are extended in the future similar to new phases I-III? Apparently the existing dikes are compacted to the same degree.

Revisions to the provisions for neutralization should be shown in your groundwater and/or construction permit.

Please address the above issues in writing. Please feel free to call.

Sincerely,



David A. Rupp, P. E.
Environmental Engineer
Bureau of Water Pollution Control

DAR:rvg

cc: Dames and Moore, Salt Lake City
Roger Foisy, Central Utah District Health Dept.
Wayne Hedberg, DOGM

nlnrcphlt.iii

FILE: North Lily Mine

This page is a reference page used to track documents internally for the Division of Oil, Gas and Mining

Mine Permit Number MO230007 Mine Name Tintic Project
Operator North Lily Date 2-28-1991
TO _____ FROM _____

☐ CONFIDENTIAL ☐ BOND CLOSURE ☐ LARGE MAPS ☐ EXPANDABLE
☐ MULTIPUL DOCUMENT TRACKING SHEET ☐ NEW APPROVED NOI
☐ AMENDMENT ☐ OTHER _____

Description YEAR-Record Number

☐ NOI ☒ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

Comments and Revisions
Addressing Project Phases I through III
State Department of Health Comments

☐ NOI ☐ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

☐ NOI ☐ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

☐ NOI ☐ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

☐ TEXT/ 8 1/2 X 11 MAP PAGES ☐ 11 X 17 MAPS ☐ LARGE MAP

COMMENTS: _____

CC: _____